What is claimed is:

[Claim 1] An electro-optic display comprising:

a bistable electro-optic material having on one side thereof a viewable surface visible to an observer viewing the display, and on the opposed side thereof a writing surface;

a deformable member contacting the writing surface of the electro-optic material, the deformable member having a plurality of electrodes formed on its surface contacting the writing surface of the electro-optic material; and

a movable member disposed on the opposed side of the deformable member from the electro-optic material and movable relative to the electro-optic material, the movable member urging the deformable member into contact with the electro-optic material such that movement of the movable member relative to the electro-optic material will cause the area of contact between the deformable member and the electro-optic material to move across the writing surface of the electro-optic material.

[Claim 2] An electro-optic display according to claim 1 wherein the electro-optic material is an encapsulated electrophoretic material.

[Claim 3] An electro-optic display according to claim 2 wherein the encapsulated electrophoretic material comprises a plurality of capsules each of which contains one or more species of charged particles in a suspending fluid, the charged particles being capable of moving through the fluid upon application of an electric field to the material.

[Claim 4] An electro-optic display according to claim 2 wherein the encapsulated electrophoretic material comprises a plurality of capsules each of which contains, in a substantially uncolored suspending fluid, at least two species of charged particles differing in at least one optical characteristic and having differing electrophoretic mobilities, the charged particles being capable of moving through the fluid upon application of an electric field to the material.

[Claim 5] An electro-optic display according to claim 2 wherein the encapsulated electrophoretic material comprises a two-phase electrophoretic medium comprising a continuous phase and a discontinuous phase, the discontinuous phase comprising a plurality of droplets, each of which comprises a suspending fluid and at least one particle disposed within the suspending fluid and capable of moving through the fluid upon application of an electric field to the material, and the continuous phase surrounding and encapsulating the discontinuous phase.

[Claim 6] An electro-optic display according to claim 1 wherein the electro-optic material is a rotating bichromal member material.

[Claim 7] An electro-optic display according to claim 1 wherein the deformable member has the form of a thin sheet of a flexible material.

[Claim 8] An electro-optic display according to claim 7 wherein the deformable member is provided with tensioning means for holding the deformable member under tension such that portions of the deformable member not in contact with the movable member will be held spaced from the electro-optic material.

[Claim 9] An electro-optic display according to claim 7 further comprising a layer of liquid or pressurized gas disposed between the electro-optic material and the deformable member such that portions of the deformable member not in contact with the movable member will be held spaced from the electro-optic material.

[Claim 10] An electro-optic display according to claim 1 wherein the electrodes are formed by printing a conductive ink on to the deformable member.

[Claim 11] An electro-optic display according to claim 1 wherein at least one of the deformable member and the movable member is provided with a friction-reducing layer.

[Claim 12] An electro-optic display according to claim 1 wherein the movable member is rotatable such that the movable member can roll across the surface of the deformable member.

[Claim 13] An electro-optic display according to claim 1 wherein at least the portion of the movable member which contacts the deformable member is itself deformable.

[Claim 14] An electro-optic display according to claim 13 wherein the movable member is rotatable and comprises a substantially rigid core and a deformable sleeve surrounding the core and contacting the deformable member.

[Claim 15] An electro-optic display according to claim 1 further comprising sealing means for preventing entry of small particles between the electro-optic material and the deformable member.

[Claim 16] An electro-optic display according to claim 16 wherein the sealing means comprises a sealing member sealingly engaged with peripheral portions of both the electro-optic material and the deformable member so as to form a closed chamber between the writing surface of the electro-optic material and the electrode-carrying surface of the deformable member.

[Claim 17] An electro-optic display according to claim 15 wherein the sealing means comprises a sealed housing enclosing the electro-optic material, the deformable member and the movable member.

[Claim 18] A method for addressing an electro-optic display, this electro-optic display comprising: a bistable electro-optic material having on one side thereof a viewable surface visible to an observer viewing the display, and on the opposed side thereof a writing surface; a deformable member contacting the writing surface of the electro-optic material, the deformable member having a plurality of electrodes formed on its surface contacting the writing surface of the electro-optic material; and a movable member disposed on the opposed side of the deformable member from the electro-optic material and movable relative to the electro-optic material, the movable member urging the deformable member into contact with the electro-optic material such that movement of the movable member relative to the electro-optic material will cause the area of contact between the deformable member and the electro-optic material to move across the writing surface of the electro-optic material,

the method comprising:

placing the movable member in a first position relative to the electro-optic material and placing a first set of potentials on the electrodes, thereby writing a first column of pixels of the display, each of this column of pixels being defined by the portion of one electrode which contacts the writing surface of the electro-optic material when the movable member is in its first position; and

moving the movable member to a second position relative to the electro-optic material, this second position being spaced from the first position, and placing a second set of potentials are placed on the electrodes, at least one of the second set of potentials differing from the first set of potentials, thereby writing a second column of pixels of the display, each of this column of pixels being defined by the portion of one electrode which contacts the writing surface of the electro-optic material when the movable member is in its second position.

[Claim 19] A method according to claim 18 further comprising holding the deformable member under tension such that portions of the deformable member not in contact with the movable member are held spaced from the movable member.

[Claim 20] A method according to claim 18 further comprising providing the electrodes by printing a conductive ink on to the deformable member.

[Claim 21] A method according to claim 19 wherein the movable member is rotatable and rolls across the surface of the deformable member.

[Claim 22] A method according to claim 21 wherein the movable member comprises a substantially rigid core and a deformable sleeve surrounding the core and contacting the deformable member.

[Claim 23] A method according to claim 19 further comprising sealing the space between the electro-optic material and the deformable member to prevent entry of small particles therein.